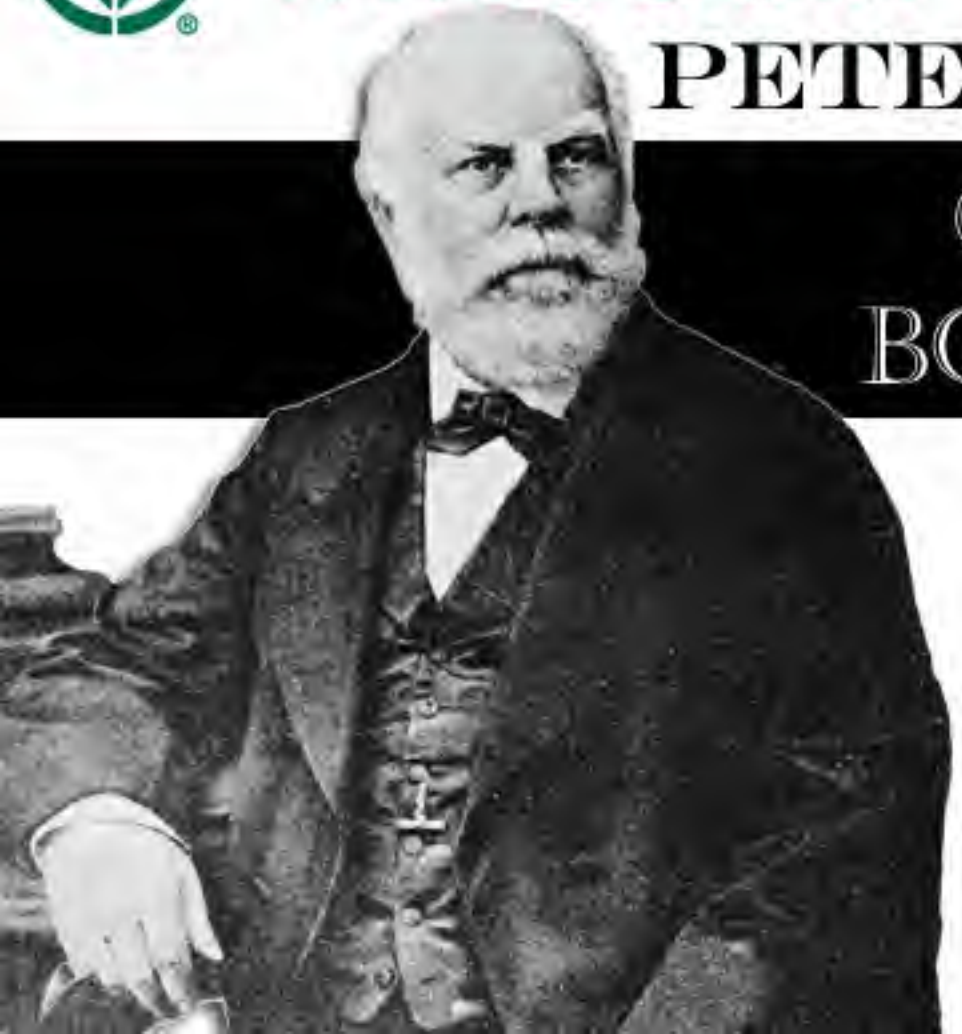
Missouri Botanical Garden
Peter H. Raven Library

George Engelmann Botanical Notebooks



Pagination Note:
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MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

that hyperæmia is never purely active, but is always necessarily *passive*. So it may be stated that no oxydation dependent upon inflammatory causes, is ever the active or primary cause of the inflammation, but is always the passive result of an external tissue irritation, which latter is the *fons origo* of the whole disturbance. BENNETT appropriately describes and defines inflammation as "a modification of the power whereby the *attractive* property is augmented and the *selective* one diminished." Hence there is in the tissues themselves, or their ultimate cellular constituents, an *irritation* which is entirely outside of the blood-vessels, or the blood itself, and the consequent hyperæmia is the result of a *vis a fronte* and never of a *vis a tergo* as was formerly supposed. In consequence of this *irritation* nutritive changes or "cloudy swelling" occur, whilst hyperæmia and the destructive and formative metamorphosis are but so many expressions of this one common cause: *irritation*. It naturally follows that in *all* cases, *sthenic* and *asthenic*, the nutritive juices freely flow to the inflamed parts, the tissues themselves will be more rapidly oxydized; and in proportion as the supply corresponds with or is able to meet the demand, will the result be happy or unfortunate. If the destructive changes are rapid and not followed by adequate formative or nutritive changes, the intensity and dangers of the inflammatory action will increase *pari passu*. The Doctor states that "If the disharmony is in consequence of excessive destructive change, the conditions of supply being normal, then we may with propriety use depletory remedies to diminish the excessive chemical change or destructive metamorphosis." Now, I would ask the Doctor, in

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8351

his confiding patient's coffin. Even were it possible for us to admit the efficacy of the antiphlogistic treatment, we would find great cause for regret in its indiscriminate application. We are so often as routinists inclined to treat a given disease with standard remedies, as a matter of course, and without due consideration of their *modus operandi*, and independently of the conditions of the primae viae, which are compelled to receive and absorb them. In this regard Dr. CHAMBERS justly remarks: "Whatever value we may attach to the evidence of the dependence of disease on the digestive organs, it is very clear we look to them for relief from these diseases. Out of the six or seven hundred forms of medicine in habitual use, very few indeed are not occasionally offered to the stomach for acceptance, and an overwhelming majority of them are adapted for use only in this way. If we still are to employ this time-honored agency in our attempts to cure bodily ailments (and I see no threatening of a change at present), it is surely a matter of great interest to secure the active working condition of the stomach. It is waste toil to try and enter locked doors. . . . . The evil of neglecting them is obstinate disobedience of the disease, or rather of the body of the patient, to any medicine administered." Yet how seldom [illegible] cians, in prescribing for [illegible] about the condition of the [illegible] many instances, administe[illegible] *qua non* of medical treat[illegible] ny other prop[illegible]

[illegible] lodged, unless we can [illegible] *them*, as [illegible] *the tissues themselves, compelling them*, [illegible] into composure and a passive condition by a with[illegible] which goads them on to the expression of thei[illegible] inflammation?

"Blood-letting is one means of regulating the [illegible] *some* cases is demanded," etc. Blood-letting [illegible] curative agent in inflammation, and under no [illegible] *haps*, as a MECHANICAL relief for congestions, [illegible] ing arterial tension, should it be [illegible] re the "oxyge[illegible]

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is nice discrimination to our
e succeed in making the dis-
a parenchymatous inflam-
excessive and destructive
tation of which resides in
entirely out of our reach?
by favoring the nutritive
more than balance the disturbed equilibrium and end
by restraining the excessive chemical waste? Will depletory treatment prevent the increased afflux to the parts of blood which irresistibly obeys the *vis a fronte*, as long as it exists and which can not so easily be dislodged, unless we can send our means of arrestation into the *molecules of the tissues themselves*, *compelling them*, as it were, to be lulled into composure and a passive condition by a withdrawal of the irritation which goads them on to the expression of their disturbance, which is inflammation?

"Blood-letting is one means of regulating the action of oxygen, and in *some* cases is demanded," etc. Blood-letting, we believe, is *never* a curative agent in inflammation, and under no circumstances except, *perhaps*, as a MECHANICAL relief for congestions, or as a palliative to relieve pain by reducing arterial tension, should it be practiced. Whilst we all know that the red corpuscles are the "oxygen carriers" of the system, yet we do not understand how "the *immediate* effect of blood-letting in diminishing the red corpuscles rather than nutrition and the plasticity of

[8]

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…mission
…ght but *a*
…d by Dr.
WATTERS, …d and the
supply;" and can we reasonably hope for any beneficial result, unless attention to nutrition is paramount to all other considerations for the relief of the patient? Is this prevention of or compensation for excessive destructive change, by which means the candle is prevented from burning out, to be called an unscientific "*stuffing*" treatment? We will admit beyond all cavil that "where, when, and how to act vigorously, and when, where, and how to vigorously *not* act, are the questions of moment" to us as practitioners, but we must confess that in the present state of medical science the problem is a most intricate one, and does not admit of easy solution. It is easy for us to believe with the author that "the dependence of inflammation upon chemical action—upon oxydation . . . . . does not characterize it or distinguish it from health." . . . . . "Neither does the *rapidity* of chemical action, abstractedly considered, characterize inflammation." . . . . . We will go a step farther, and affirm our belief that the oxydation of tissue, be it increased or not, bears the same relation to inflammation as the attendant hyperæmia, namely: the relation of *effect* to cause. Cellular or molecular irritation being *the cause*, oxydation producing tissue metamorphosis, or destructive changes, and hyperæmia, with all its consequences, are the *effects* of inflammation and are not to be mistaken for its essence. VIRCHOW beautifully illustrates

8352

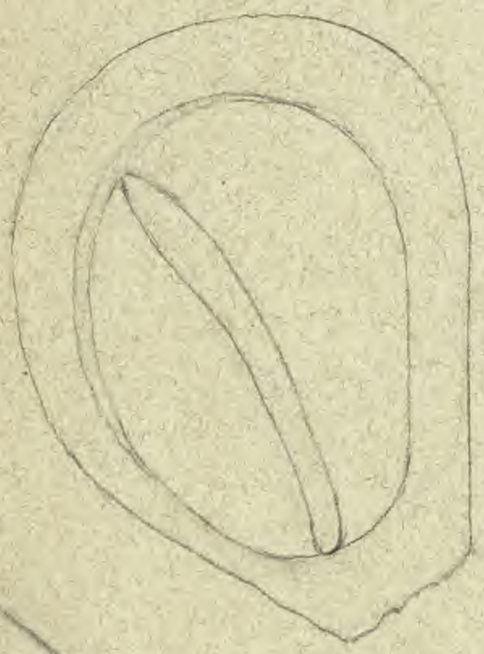
1988

Yucca glauca
cult. St Louis 1870

Dec 27 1870

× 4

sect at
a a'



a

a'

S

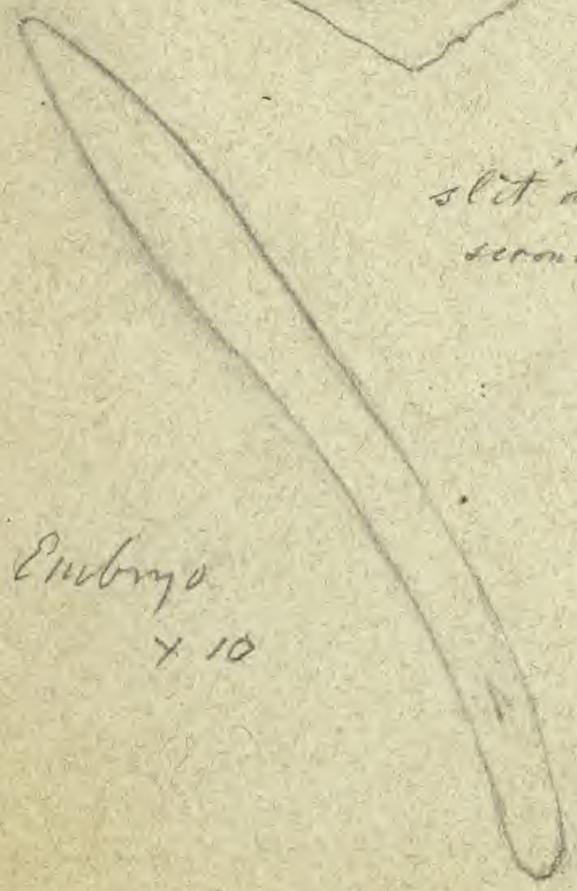
S'

part of Cauloge

× 60

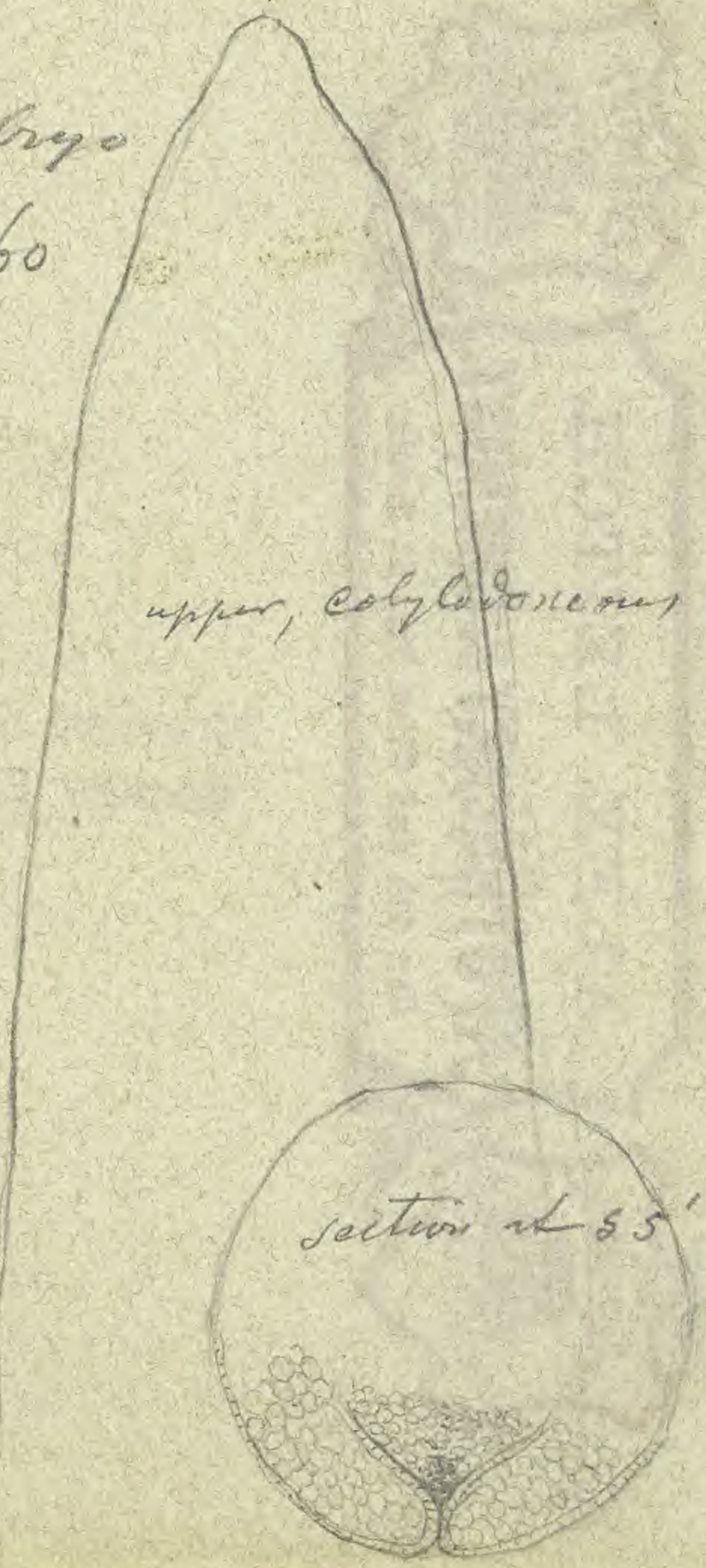
upper, cylindraceous end

slit and
second leaf



Embryo
× 10

lower, radical
end



section at S S'

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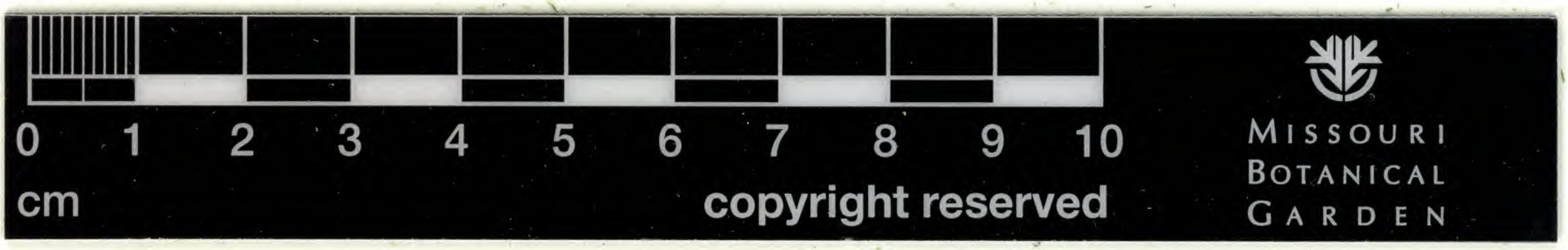


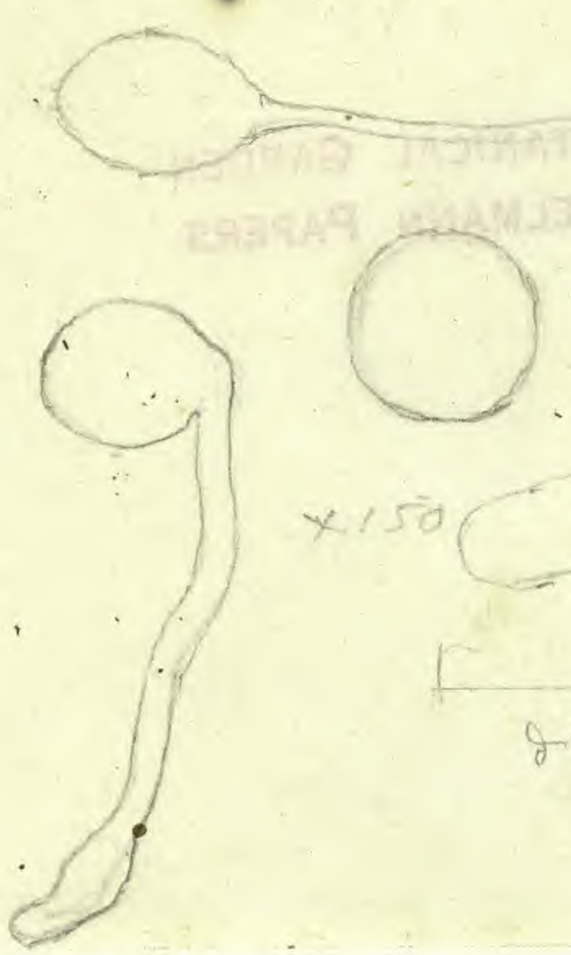
Pollen grains of Epeora filamentosa in my yard June 12 1872
before the Office windows

Pollen found in the tubular cavity of the style.

× 415

$\frac{29}{415} = 0.070$

$\frac{26}{415} = 0.062$



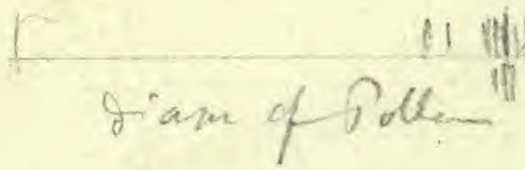
$\frac{11}{150} = 0.073$

July 3rd Myrtleum ♀ in Mucous of effete Stigmatic Tube

× 415

× 150

open canal



diam of Pollen × 415 $\frac{24-30}{415}$ m m

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Leitch & Curlier
DRUGGISTS
Druggist, fifth Market and Olive Streets
South-west

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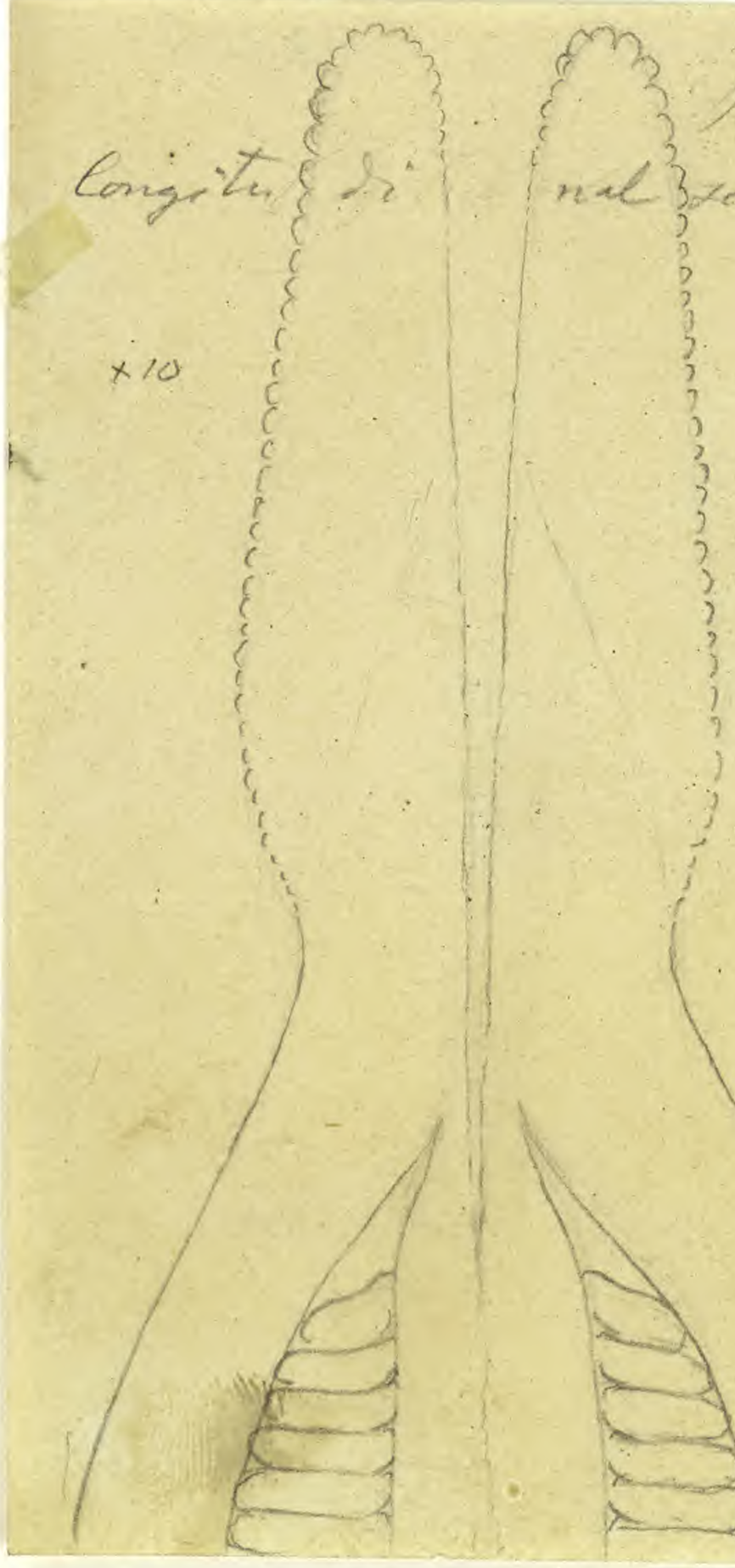
Yucca pubescula

July 1st 1872

Gardens,
St Louis

Longitudinal sections through style



×10

×150

surface cell,

section through tube

upper part

lower part

yesterday and today examined about 15 flowers, without finding a single fertilized one

8335

ALEX. LETICH,

APOTHECARY & PHARMACEUTIST.

Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.

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epidermis of stigmatic tube

June 15 1872

yucca filamentosa
of my garden

×280

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Smith & Curtis
DRUGGISTS
Druggist and Fifth Market Streets
South-west corner Fifth and Market Streets

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Yucca pubescula Haselt Jamn 30 1872
Jamni Garden St Louis 9 flowers

seedling
Y. angustifolia
May 28 1872

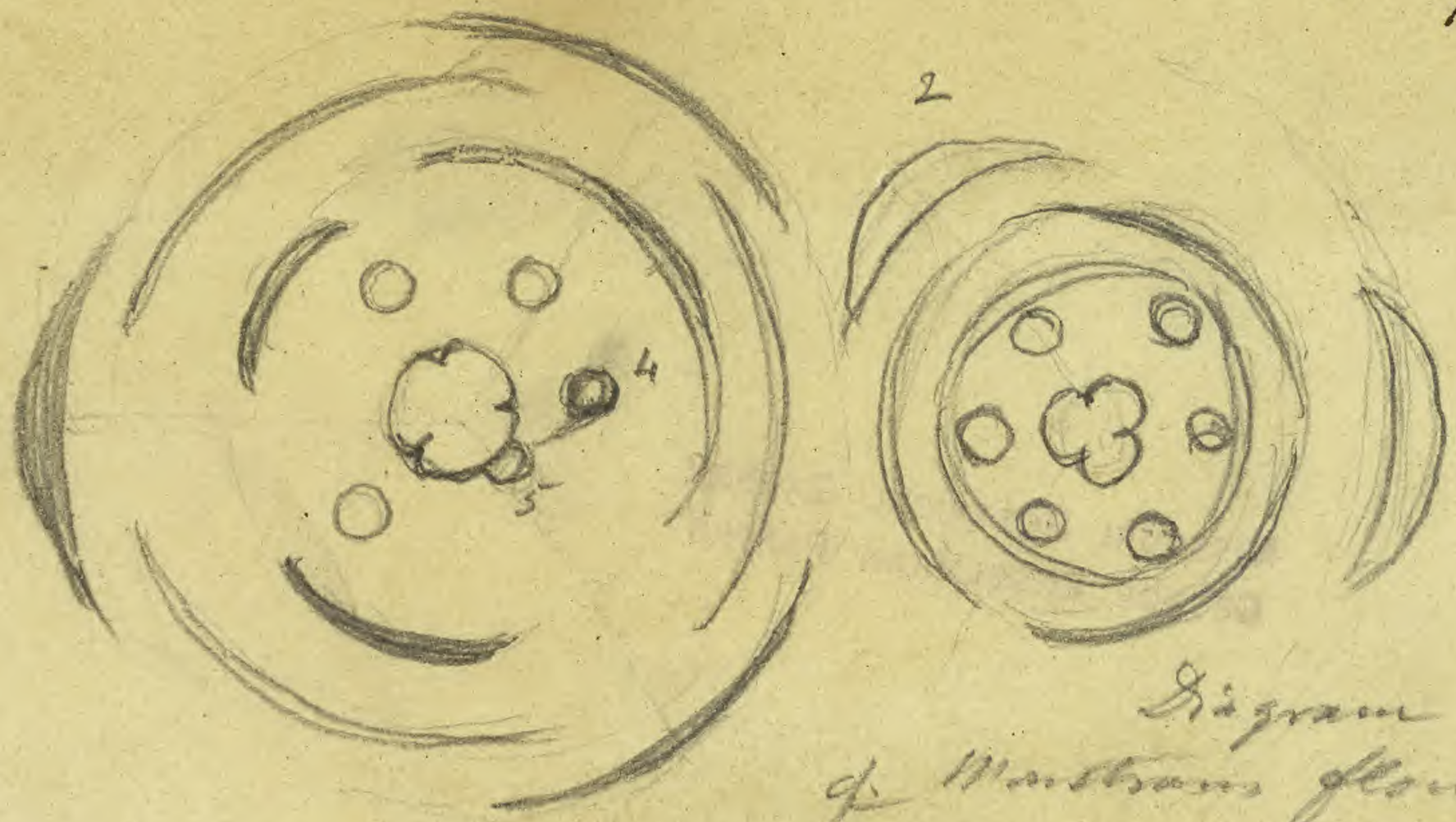

Diagram
of Washburn flower

1 petaloid phyllocon removed, and bearing axillary bud
2 - - similar, a little higher up on secondary
3 - - a little removed from primary flower axis
with this there are 9 petals, 9 good stamens, the 4th adnate
to 5, a filament which is adnate to ovary.

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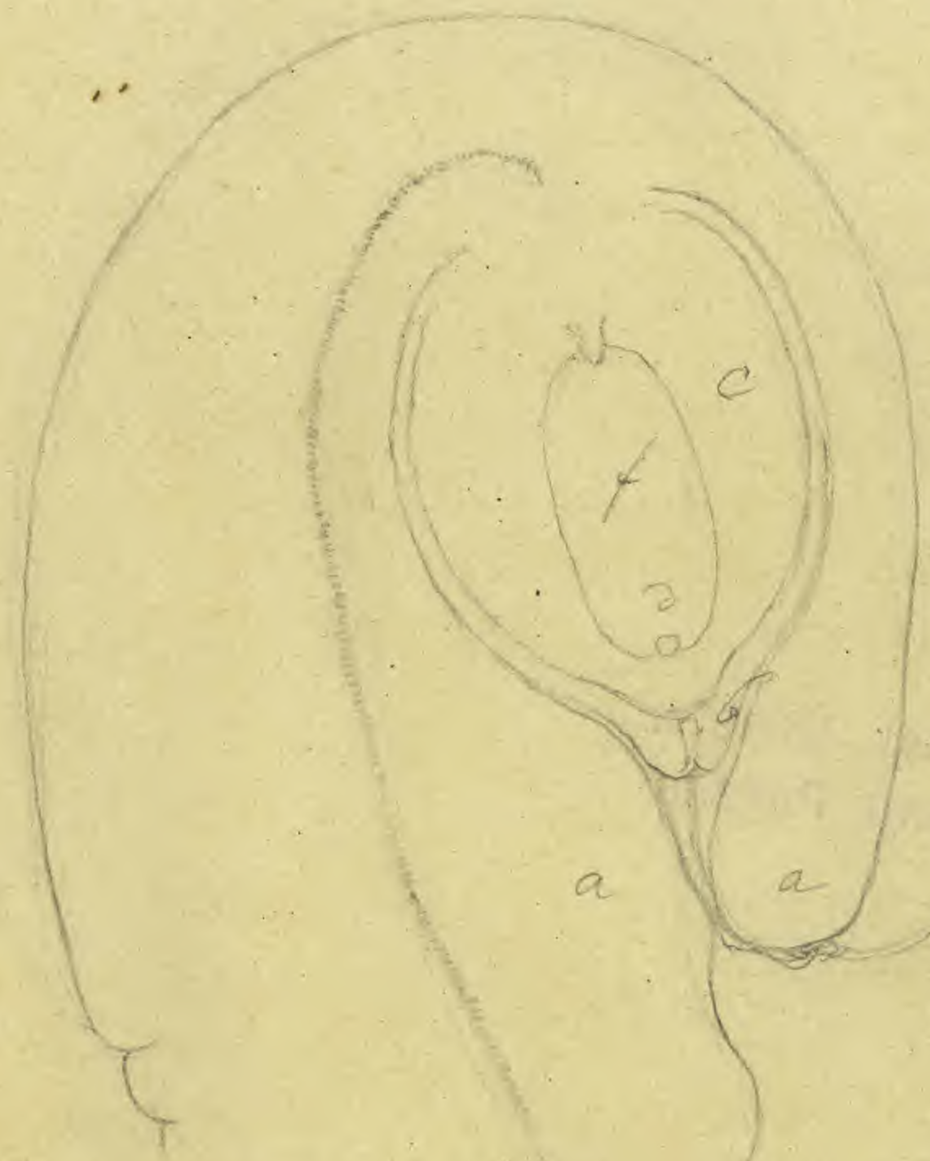
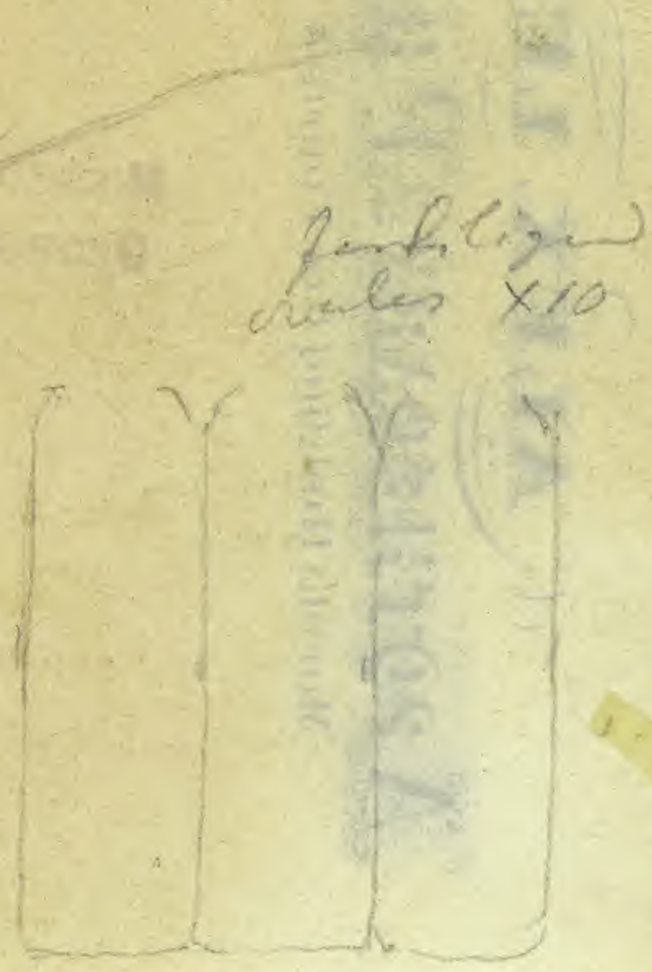
Veronica peregrina Test flowers July 6 1872

H.D.S. Missouri

July 5th



Section of ovule just fertilized mag 60 ovule taken from lower part of ovary



Fert. Ovule Scales X10

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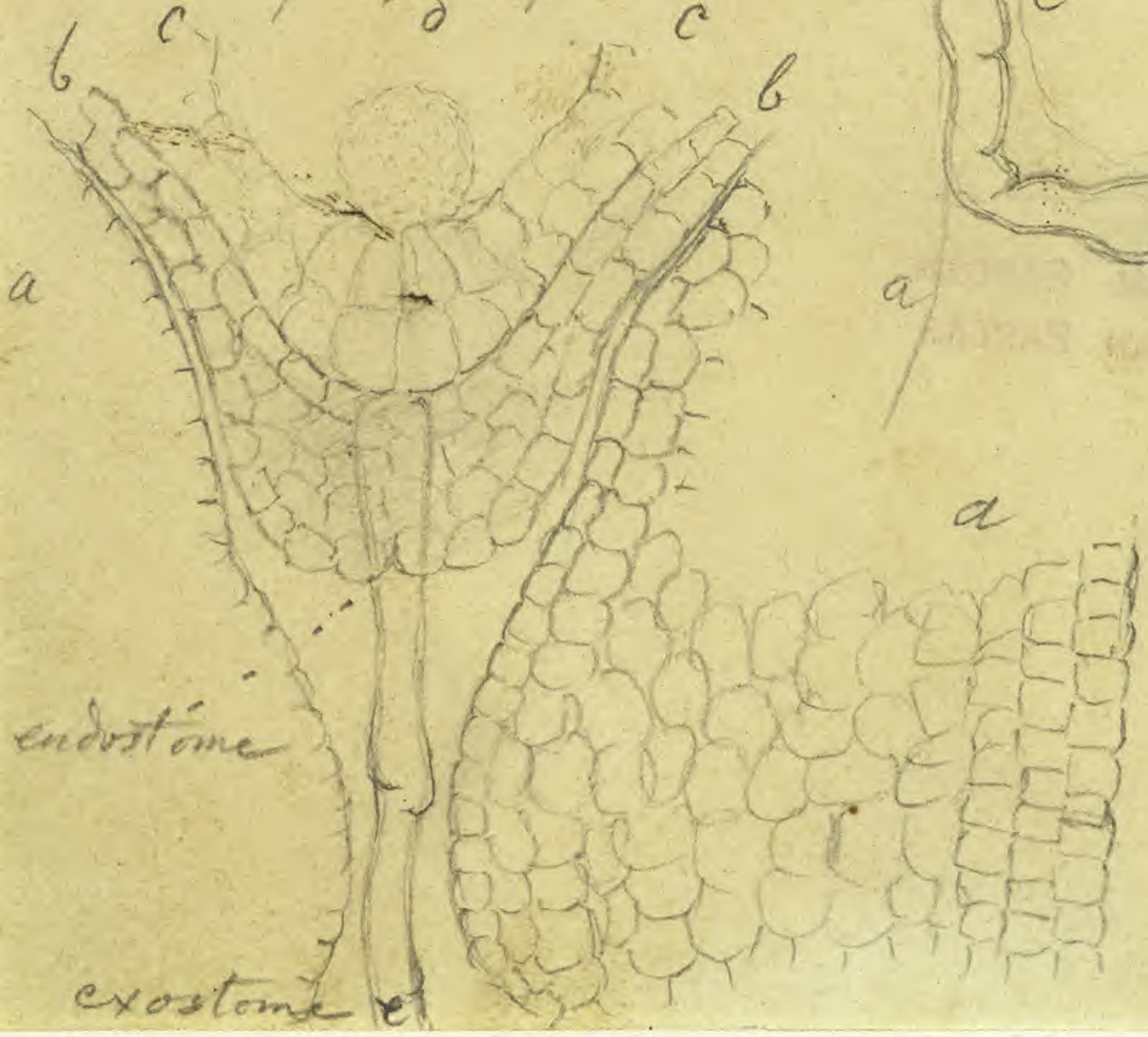
Yucca pendula
one of the last flowers in H.B. Miss
part of
section of ovule just
fertilized magn 285
ovule from lowest part of
ovary

July 6 1872

July 5 1872

× 285

Pollen tube
shown separately



a Primina
b Secundina
c nucleus
d vesicle, seminal
e Pollentube
f cavity of nucleus
or embryosac

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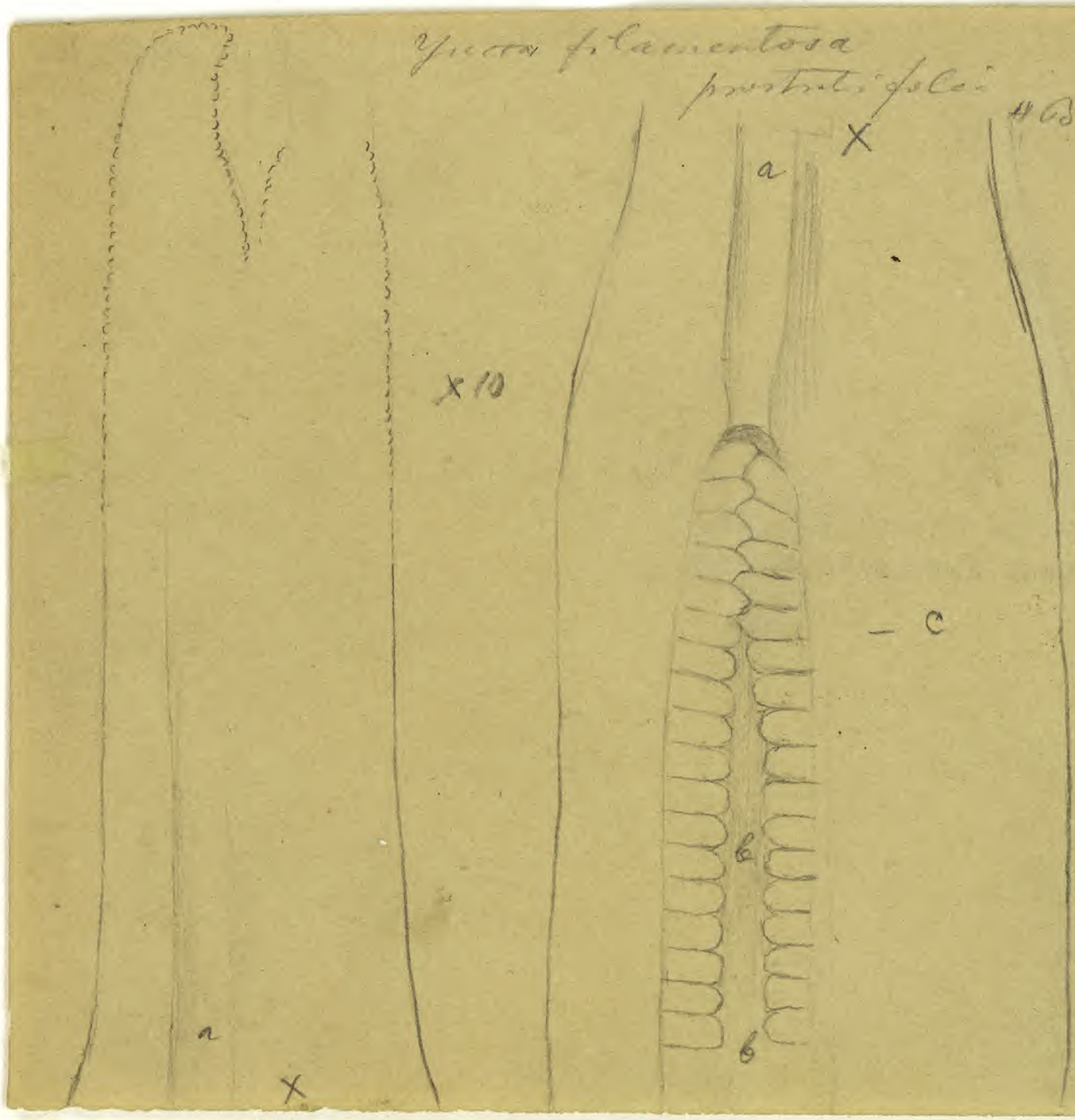
Yucca filamentosa
puntil. foliis

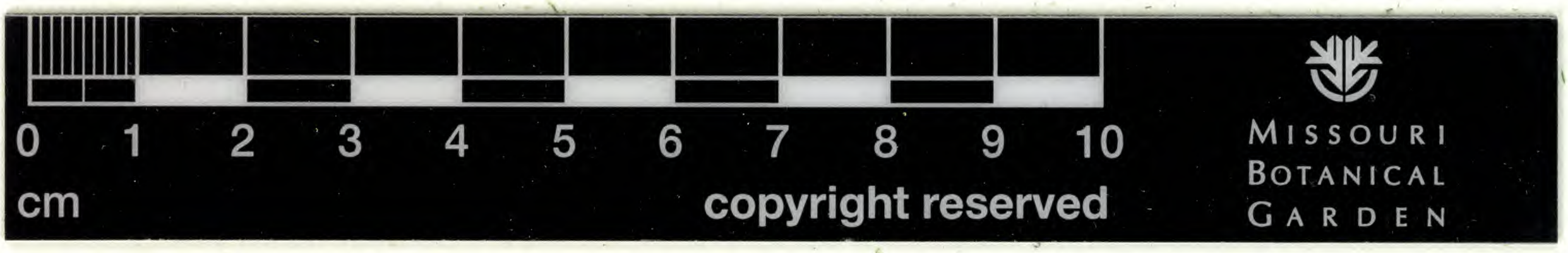
May 30 1873

H.G. Wilson



Section of ovary and style X10

one of the cells and the bank of the stigmatic canal a a laid open; b in the cell the two rows of ovules visible with the false or secondary dissepiment (6.6) between them, which ceases between the 5 & 6 upper pair of ovules at C



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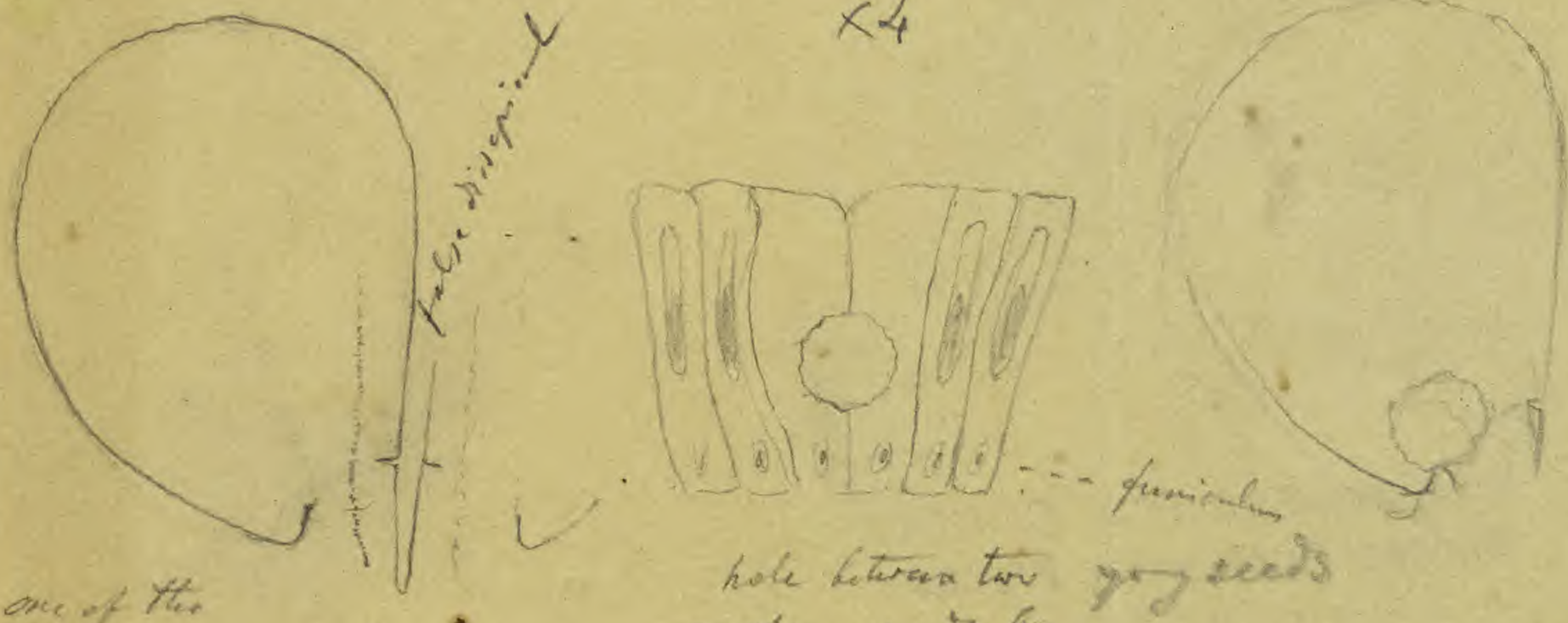
1.

In a fruit 2 inches long 1 inch diam.

Guara flavonda
H&B Mss.

July 12 '73


false dissepiment
×4
one of the larger yg seeds, full grown
hole between two seeds, made by the yg larva
seeds thickened
yg seeds

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2.

G. flavida Lythr. July 13th 1873
HGB Mexico

×30

Length 1 millim.

×4

×4

×4

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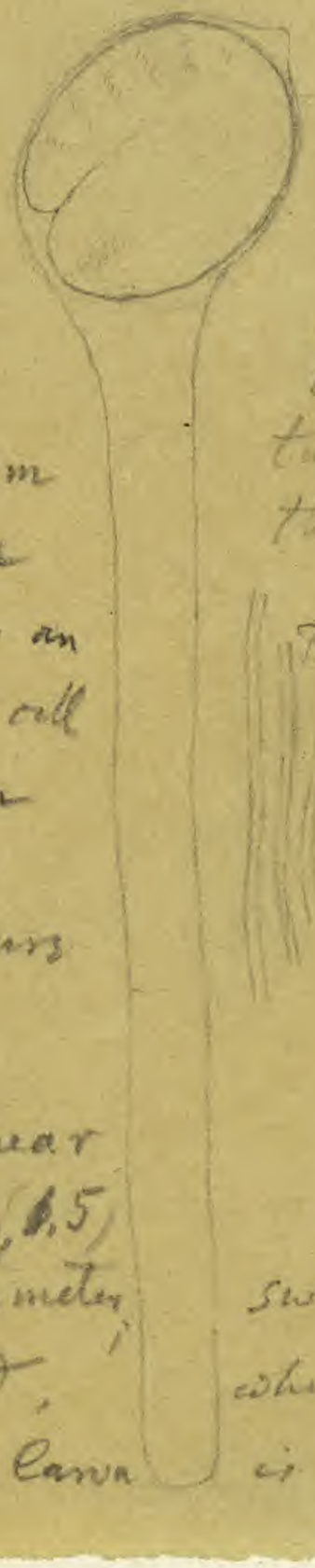
3.

Yucca filamentosa
var recurvifolia-flaccida
A.L. Matthews, Kirkwood, Mo.

July 16th 1873

Egg & Ovule from same fruit

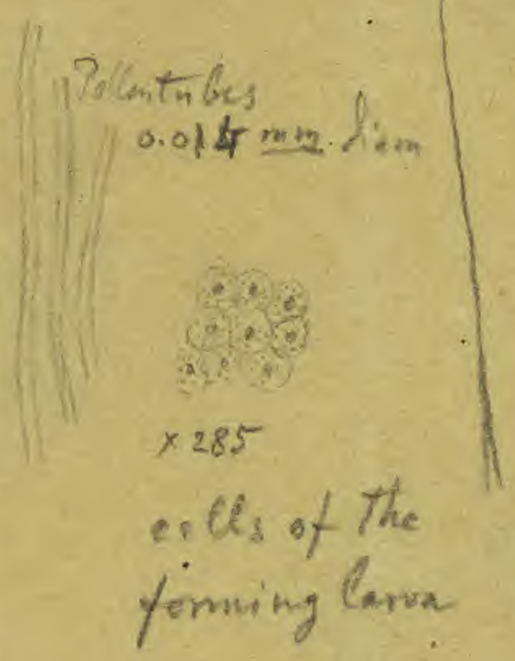
collected on the 14th. Flower fertilized in night of 13-14, ovule and larva now 2½ days



×60

Hatching ovum of Pronuba deposited in an the ovarian cell free between the ovules 60-66 hours before.

Ovum linear 1½ mm long (0.5) 1/12 = 0.08 in diameter on one end, curled up Larva



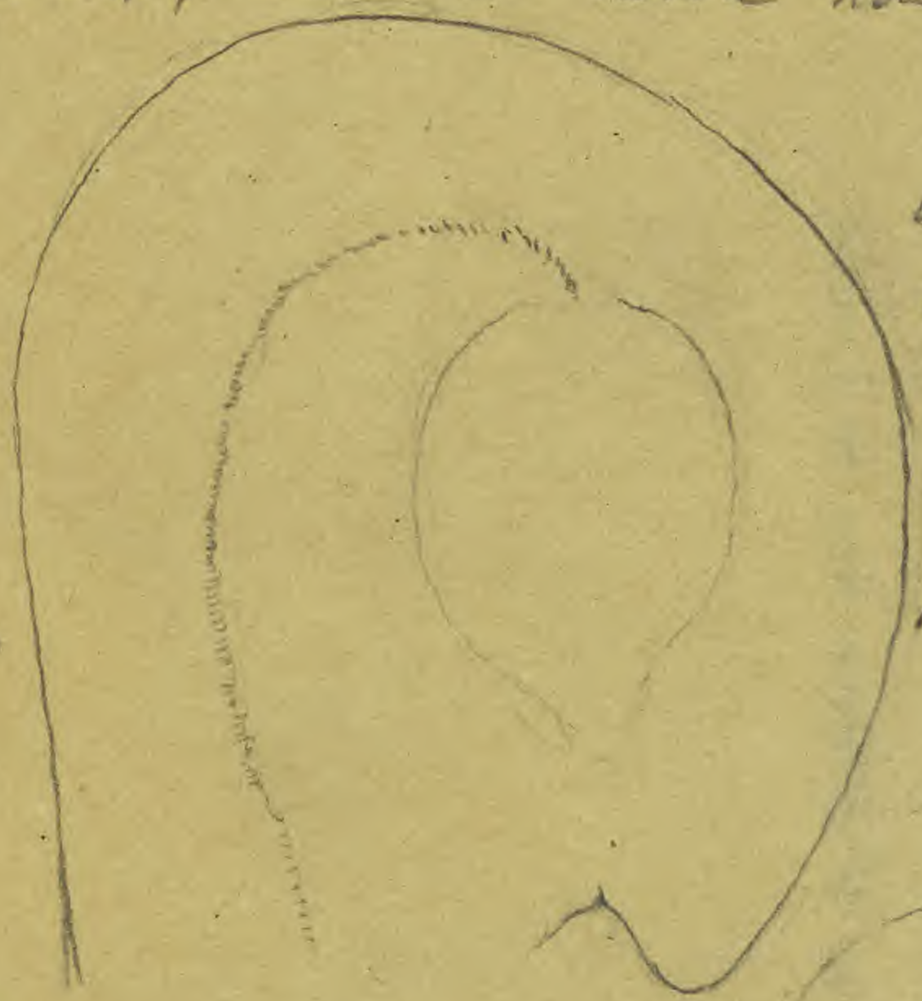
Length twenty times the diameter

Pollentubes 0.014 mm diam

×285

cells of the forming larva

Swelling up where the is developing



ovule fertilized about 60-66 hours ago

×60

1, 1 mm long

ovule from bud

×60

0.65 mm long

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4.

Yucca

July 19 1873

sent by Prof D C Eaton New Haven Ct
sent fruit to me July 16th

×4

×10

I find many punctures
on fruit, gummy — young seed
~~ovules~~ 3½ – 4 mm diam
Larva in outer end of young seed
1¼ mm long, mandibles, ant
Turning dark — Shell Curing

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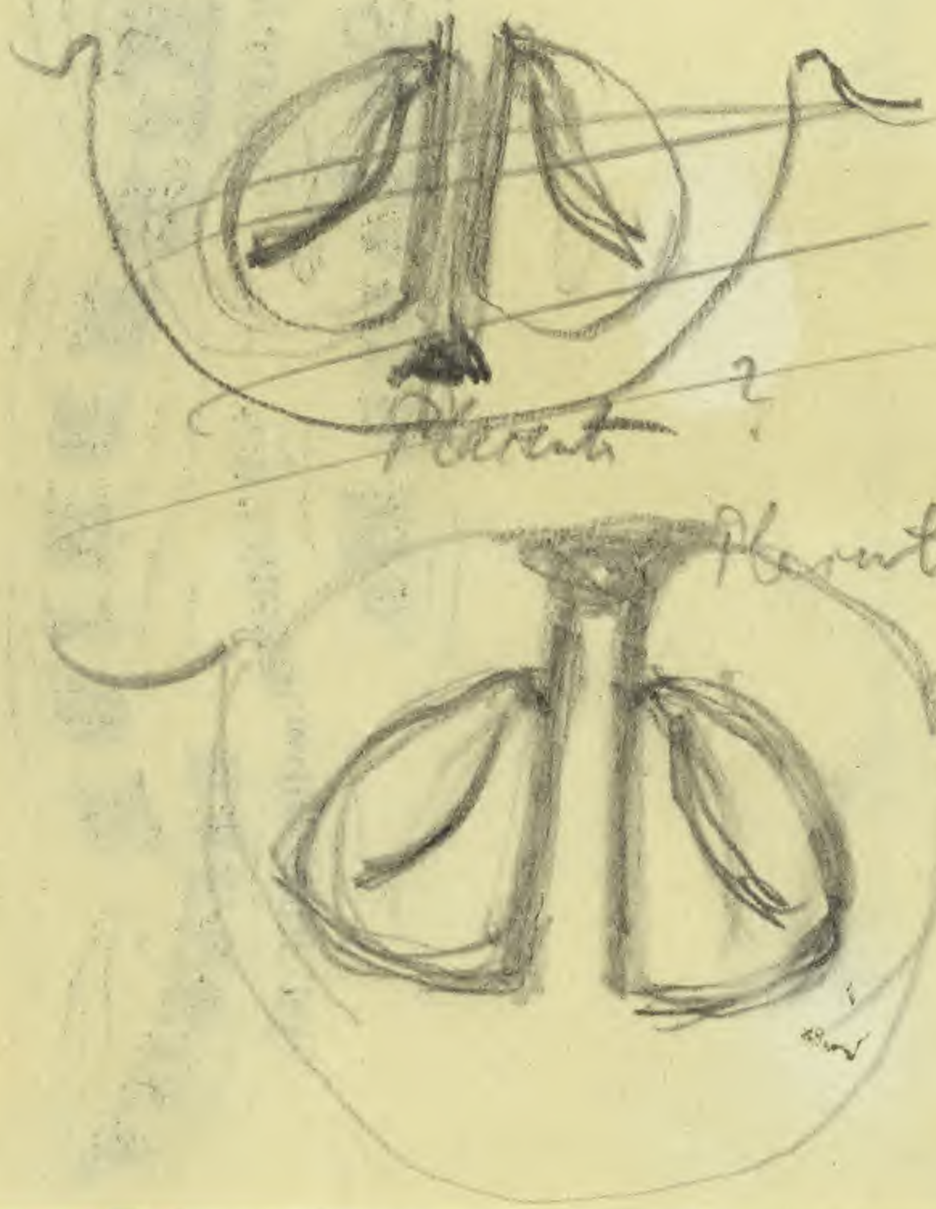
15 | 80 / 75 | 5 515 | 600 / 515 / 2850 | 0.015 285 | 380 / 285 / 950 / 140 | 0.015

Semicircles on the straight side



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J. C. KIRKBRIDE
DRUGGIST

No 2600 OLIVE STREET, S.W. CORNER OF PRATTE AV.

ST. LOUIS, MO.

Mrs Upham called to pay bill. Please send it to 1010 Locust St for collection

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Rec Jan 11 '16
Ans — 13

DIRECTIONS FOR SENDING INSECTS.

All inquiries about insects, injurious or otherwise, should be accompanied by specimens, the more the better. Such specimens, if dead, should be packed in some soft material, as cotton or wool, and inclosed in some stout tin or wooden box. They will come by mail for one cent per ounce. INSECTS SHOULD NEVER BE INCLOSED LOOSE IN THE LETTER. Whenever possible, larvæ (*i. e.* grubs, caterpillars, maggots, etc.) should be packed alive in some tight tin box—the tighter the better, as air-holes are not needed—along with a supply of their appropriate food sufficient to last them on their journey; otherwise they generally die on the road and shrivel up. Send as full an account as possible of the habits of the insect respecting which you desire information; for example, what plant or plants it infests; whether it destroys the leaves, the buds, the twigs, or the stem; how long it has been known to you; what amount of damage it has done, etc. Such particulars are often not only of high scientific interest, but of great practical importance. In sending soft insects or larvæ that have been killed in alcohol, they should be packed in cotton saturated with alcohol. In sending pinned or mounted insects, always pin them securely in a box to be inclosed in a larger box, the space between the two boxes to be packed with some soft or elastic material, to prevent too violent jarring. PACKAGES SHOULD BE MARKED WITH THE NAME OF THE SENDER.

Department of Agriculture,

DIVISION OF ENTOMOLOGY,

Washington, D. C., January 9th, 1882.

Dr. Geo. Engelmann,

St. Louis, Mo.

My dear Doctor,

I have been glad to hear lately that you are back at your old post and I hope thoroughly benefitted by your last summer's long journey.

You once made a careful sketch of a section of Yucca pod showing the egg of Pronuba *in situ*. I should like very much to have this sketch of yours and an enumeration of the technical terms applied to the parts of the pod. Could you hunt up that old sketch and send it to me with such references to the parts as suggested? By doing so you will very much oblige

Yours ever,

C. V. Riley.

4 drawings sent. Jan 14th

1, egg just hatching July 16 1873
2, yg seeds swollen, by the action of the yg larva July 12th 1873
3, yg larva, July 13th 1873 & swollen seed
4, yg sent from New Haven, with larva. July 19 1873

to be "returned in a reasonable time, and proper credit to be given to me"

60-69

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